Cambridge Recycling Participation Study
"Lessons Learned"
(Methodology Suggestions for Future Work)

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Introduction

As with most studies, this one produced many lessons beyond the answers we set out to obtain. Although the planning for the study anticipated many of the factors we would have to deal with, it missed some and underestimated others. Although not technically a part of Clear View Consulting's contract, it seemed desirable to take some time to write down some of these lessons (at least from CVC's viewpoint), in the hope that they might benefit the design and execution of any future studies of this type.

Spend More Time and Money to Get a Better Study Sample

Given all the factors that subdivided and whittled down our study groups, it would have been worth extra time and effort to make sure we actually obtained our original goal of 600 households with NO unidentified participants. To do this, we would have needed to monitor approximately 25% more households at the outset than we actually did, which would have required starting with 4 monitoring routes instead of the 3 we used. Because of the unusually low ratio between average set-out rates and overall participation rates in this study area, it would have been desirable to make sure we got 5 weeks of data on all streets and households in the study area (due to problems with no-shows by a couple of temps, we settled for 4 weeks data on roughly a third of the study area).

The estimated additional cost of the above approach would have ranged from $222 if a DPW staff person could have monitored the extra route to $592 otherwise. Ensuring we got the 5 weeks data would have added one to two weeks to the timeline, given the level of no-shows we encountered.

Gather "Before" Data on Overall Participation and Set-Out Weights

In retrospect, it would have been useful to obtain an estimate of the overall average set-out rate and participation rate for study area (the participation rate, for instance, would have aided our efforts to figure out the real impact of household turnover). This would have been accomplished by continuing to monitor all households in the overall study area for 5 weeks, rather than dropping out participants as they were identified. It would also have been worthwhile to collect limited, but representative, weight data for all participants (we would then have had a basis for determining whether

the new recycling households were setting out smaller amounts of recyclables than other households in the area).

The estimated additional cost might possibly have been none if we had been doing the other steps described above (the work most likely could have been completed within the minimum 4 hours that temps were being paid). It is possible that we might have needed to hire one extra temp as a weighing assistant for up to 4 days, in which case extra cost would be approximately $296.

Set Study Group Sizes With An Eye Toward Statistical Analysis Needs

In hindsight, it seems to have been a mistake to size all of the four study groups equally. This was done because everyone was assuming that we would be comparing each of the two active treatment groups in its entirety to the control and brochure mailing groups. In fact, during the implementation of the outreach phase, it became clear that both the phone and door-to-door outreach groups had splintered into four subgroups, of which only the "committers" were directly relevant to our research questions.

At the very least, it would have been better to size the groups according to an estimate of the fraction we would be able to contact successfully. This approach can be illustrated using our actual success ratios (not necessarily what a future study would encounter, but a useful starting point):

If N = size of control group, then:

(N/.92) = size of mailing group
(N/.74) = size of door-to-door group
(N/.45) = size of phone group.

Calculating N + (N/.92) + (N/.74) + (N/.45) = 600, we arrive at:

Control Group (Start) = 106 households,
Mailing Group (Start) = 115 households,
Door Group (Start) = 143 households,
Phone Group (Start) = 236 households.

With the success ratios encountered in the outreach phase of this study, this approach would theoretically have produced 45+ committers in the door-to-door group and 18+ committers in the phone group.

Do Limited "One-Month" Monitoring of Committer Households

As noted in Clear View's reports, the final study design did not really make it possible to distinguish "committers" who never actually started recycling from those who started but dropped out by the time of the "3-month" monitoring. The only obvious way

to make this distinction would be to do some very limited monitoring of "committer" addresses only within the first month after the outreach was completed.

Such monitoring could not be done by the consultant in any study design requiring the consultant to be "blind" as to household assignments to treatment groups. Thus, it would probably have to be done by client staff. If this monitoring were limited to two weeks (enough to get a decent sense, although not data entirely comparable to the other monitoring rounds), this step would require four to five hours of staff time. The data could simply be filed until the point at which the consultant began final analysis of results.

Try to Collect More Data/Insights Into Various "Background" Factors

The Task 11 (Statistical Analysis) report identified a series of factors which anecdotally and/or theoretically would be affecting either (a) some of the households in any ongoing study of this type, or (b) the measurement results obtained by the study. The largest of these, which was partially quantified, was the effect of household turnover in our rather mobile society. Other household effects were "peer" effects, in which household behavior is changed by awareness of other households in their building or on their street, and "measurement" effects, in which behavior is changed by awareness that the household is being studied. Effects deriving from limitations on the study effectiveness were identified as "false positive" and "false negative" assessments of household recycling, both in the "before" and "after" measurement phases.

Clear View Consulting made some efforts within this study's limited timeframe to ensure that the model of background factors presented in the Task 11 Report was a "best guess", but it remains a guess, which is why the statistical analysis conclusions were presented in a rather qualified manner. For future work in this area, it would be desirable to conduct a much more thorough canvass of work that has been done in participation measurement regarding these factors. Since some of the factors are by definition almost not measurable, such work would still lead only to a "best guess", but it might be a better one.